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EXAMINER

HOBBS, MICHAEL L

ART UNIT	PAPER NUMBER
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1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/527,958	Applicant(s) SIEBENKOTTEN ET AL.	
	Examiner MICHAEL HOBBS	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-44, 46, 47, 49-53, 55-57, 60, 61, 63-66, 69-76 and 79-81 is/are pending in the application.
- 4a) Of the above claim(s) 66, 67, 69-76 and 79-81 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-44, 46, 47, 49-51, 61 and 63-65 is/are rejected.
- 7) ☒ Claim(s) 52, 53, 55-57 and 60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment filed on 04/24/2009 has been considered and entered for the record.

PRELIMINARY REMARKS

2. Applicant's amendment overcomes the 35 USC 102(b) rejection in the Office Action mailed on 11/24/2008.
3. Claims 38-44, 46, 47, 50-53, 55-57, 60, 61 and 63-65 are pending further examination upon the merits. Claims 66, 67, 69-76 and 79-81 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because it includes the legal phraseology "said" in lines 6, 7, 9, 12, 13, 15, 17 and 20. The term means appears in

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line 19 of the Abstract. Also, the abstract is objected to for being longer than 15 lines or 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Regarding claim 39, the phrase "like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d). Furthermore, the term "tube-like" is a relative term that also renders the claim indefinite and the specification does not provide guidance as to what type of structure is implied by "tube-like" or how that structure should be interpreted.

9. Appropriate corrective action is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 38, 41, 42, 44 and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Schisselbauer (US 4,968,567) (hereafter referred to as Schisselbauer).

12. Regarding claim 38, Schisselbauer discloses an electrochemical cell that is sealed from the outside by a cap (cap 4) and includes an electrolyte reservoir (reservoir 2) which is fully capable of containing a biological material where the biological material is considered material worked upon by an apparatus and does not impart patentability to the claims (see MPEP 2115). Schisselbauer further includes a cell stack (stack 8) that includes a polarity electrode within the stack (col. 2 lines 24-27) and is within the cell stack chamber (chamber 10) which is being interpreted as the "inner space of the chamber". Also, Schisselbauer discloses a hole (hole 14) or inlet that is being interpreted as being disposed next to the cell stack (Fig. 1) and that the reservoir (reservoir 2) is formed by an internal wall (wall 12) and that the hole (hole 14) functions as the inlet line connecting the two interior spaces. Finally, the two interior spaces are separated by a rupturable diaphragm (diaphragm 16) that is broken by a lance (lance 18) which is activated by either manual activation or by an explosive device (col. 2 lines 16-19).

13. With regards to claims 41 and 42, the membrane of Schisselbauer is a rupturable diaphragm which read on a fragile membrane and the container is sealed and fully capable of being sealed in an aseptic manner.

14. Regarding claim 44, the reservoir and chamber of Schisselbauer are connected to form one piece as shown in Figure 1 and for claim 46 the unit is fully capable of being

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sealed aseptically from the outside. Also, for claim 52, the reservoir is sealed by a cap (cap 4) which is being interpreted as "connected to an outlet opening".

15. Therefore, Schisselbauer meets the limitations of claims 38, 41, 42, 44 and 46.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schisselbauer in view of Berson et al. (US 6,720,178 B1) (hereafter referred to as Berson).

20. Schisselbauer discloses a hole or inlet connecting the two chambers, but is silent regarding the inlet being a tube.

21. Berson discloses a self-feeding bottle for culturing a cell where the bottle is divided into two compartments separated by a barrier (barrier 104). For claim 39, Berson discloses a tube (tube 116) that wraps around the outer perimeter of the reservoir chamber and pumps air and culture medium into the reaction chamber (col. 3 lines 51-53). Berson further discloses that the tube diameter can be either larger or smaller to adjust the flow rate from one chamber to the next (col. 3 lines 53-56). While not specifying a teaching to use the tube, a tube or "tube-like" shape as a conduit between two chambers, as shown by Berson, was known at the time of the instant application. Further, one of ordinary skill in the art would have been aware of a "tube-like" structure to connect chambers and as a flow restrictor and would have been able to modify the hole of Schisselbauer to be a tube in order to connect the two chambers. Therefore, under rationale B of *KSR*, 550 U.S. ___, 82 USPQ2d 1385m 1395-97(2007), it would have been obvious to one of ordinary skill in the art to try the tube of Berson to connect the two chambers of Schisselbauer to obtain the predictable result of moving fluid from the reservoir to the cell stacks.

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22. With regards to claim 40, Schisselbauer and Berson are silent regarding the diameter of the tube decreasing as it approaches the electrode. However, as discussed above, Berson discloses that the tube diameter can be adjusted to control the volume of culture media entering the reaction chamber. Therefore, it would be obvious to one of ordinary skill in the art to modify the tube of Berson to have a decreasing diameter or taper to the tube as it approaches the proximity of the electrode of Schisselbauer. Therefore, it would be obvious to one of ordinary skill in the art to adjust the tube diameter in order to obtain the optimum diameter for the tube of the result effective variable in this known process, consult *In re Boesh and Slaney* (205 USPW 215 (CCPA 1980)).

23. Regarding claim 43, Schisselbauer discloses an electrochemical cell that is sealed from the outside by a cap (cap 4) and includes an electrolyte reservoir (reservoir 2) which is fully capable of containing a biological material where the biological material is considered material worked upon by an apparatus and does not impart patentability to the claims (see MPEP 2115). Schisselbauer further includes a cell stack (stack 8) that includes a polarity electrode within the stack (col. 2 lines 24-27) and is within the cell stack chamber (chamber 10) which is being interpreted as the “inner space of the chamber”. Also, Schisselbauer discloses a hole (hole 14) or inlet that is being interpreted as being disposed next to the cell stack (Fig. 1) and that the reservoir (reservoir 2) is formed by an internal wall (wall 12) and that the hole (hole 14) functions as the inlet line connecting the two interior spaces. Finally, the two interior spaces are separated by a rupturable diaphragm (diaphragm 16) that is broken by a lance (lance

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18) which is activated by either manual activation or by an explosive device (col. 2 lines 16-19).

24. With regards to claim 43, Schisselbauer and Berson do not specifically state that the wall and reservoir are made from an elastic or deformable material. However, Berson discloses that the chambers can be made of polyethylene (col. 3 line 45) which is an elastic or deformable material. As a flexible or deformable material, polyethylene is known to have elastic properties and would have been obvious to one of ordinary skill in the art to employ as the wall and reservoir material of Schisselbauer

25. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schisselbauer in view of Schwartzman (US 3,521,745) (hereafter referred to as Schwartzman).

26. Schisselbauer is silent regarding a chamber divided into several sub-units by at least one dividing member.

27. Schwartzman discloses a mixing chamber for storing two or three materials in different compartments where each compartment is separated or divided by membrane that is ruptured in order to mix the materials. For claim 50, Schwartzman divides the container up into three separate chambers (Fig. 1) and for claim 53 the cover (cover 16) is fully capable of holding the mixed materials thereby forming a single piece.

Schwartzman uses the different chambers to hold three different materials such as dyes, cosmetics and medications that have an extended shelf-life when not mixed, but need to be used soon upon mixing (col. 1 lines 30-32 & 35-37). Therefore, it would be

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obvious to one of ordinary skill in the art to employ the membranes and cover as suggested by Schwartzman in order to hold the electrolytes and consequentially, the biological samples of Schisselbauer. The suggestion for doing so at the time would have been in order to mix and provide a convenient means for dispensing the fluid afterward (col. 1 lines 48-50).

28. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schisselbauer in view of Schwartzman and in further view of Berson.

29. Schisselbauer and Schwartzman are silent regarding the partition element being a valve.

30. For claim 51, Berson discloses that the partition element can be a valve (col. 6 lines 3-5; Fig. 4). The valve allows the reservoir to be shut-off from the growth chamber and removed without having to expose or open the growth chamber during processing (col. 3 lines 18-20). The implication of the valve in Berson means that the cell growth can be a continuous process with harvesting and replenishing the culture media can be handled without any undue exposure of the culture medium to the outside environment. Replacing the foil of Schisselbauer and Schwartzman with the valve of Berson would be obvious modification to one of ordinary skill in the art. Therefore, under rationale B of *KSR*, 550 U.S. ___, 82 USPQ2d 1385m 1395-97(2007), it would have been obvious to one of ordinary skill in the art to try the valve of Berson to connect the chambers of Schisselbauer and Schwartzman in order to obtain the predictable result of being able to control the flow of fluid to and from the separate chambers.

31. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schisselbauer in view of Blackburn (US 2003/0190608 A1) hereafter referred to as Blackburn).

32. Schisselbauer is silent regarding a chamber that has a serpentine or spiral shape.

33. Blackburn discloses a micro-fluidic device that has a mixing channel that for claim 49 has a serpentine shape ([0053]). This is a common shape for mixing channels and would have been known to one of ordinary skill in the art at the time of the invention. Furthermore, it would have been an obvious to one of ordinary skill in the art to modify the channel or hole of Schisselbauer to be a serpentine shape based on Blackburn in order to promote mixing within the channel with a reasonable expectation of success.

34. Claims 47 and 61 rejected under 35 U.S.C. 103(a) as being unpatentable over Schisselbauer in view of Barbera-Guillem (US 2004/0029266 A1) (hereafter referred to as Barbera-Guillem).

35. Schisselbauer is silent regarding a wall that is self-sealing wall or septum that can be perforated.

36. With regards to claim 47, Barbera-Guillem discloses a re-sealable elastomeric septum (septum 230) that permits the insertion of a small needle or pipette to load or remove a sample while maintaining the aseptic seal of the device and is part of the

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sidewall of the bioreactor ([0225]). Also, a septum or elastomeric wall is a known element within the art and solves the technical problem of allowing access to the interior of the chamber while preventing the chamber and interior samples from coming into contact with external contaminants. Furthermore, it would be an obvious modification to the device of Schisselbauer for one of ordinary skill in the art to allow a syringe or pipette to access the electrolyte (or biological sample) contained within the reservoir. Therefore, under rationale E of *KSR*, 550 U.S. at ____, 82 USPQ2d at 1397, it would have been obvious to one of ordinary skill in the art to employ the septum as suggested by Barbera-Guillem in order to access the interior chamber of Schisselbauer with a reasonable expectation of success.

37. For claim 61, it is an intrinsic property of the septum of Barbera-Guillem that the septum would be made of synthetic materials. It would be obvious to one of ordinary skill in the art for the reasoning used above.

38. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schisselbauer in view of Bean et al. (US 4,061,543).

39. Schisselbauer discloses a cell stack within the inner space and an electrode exterior to the cell stack, but is silent regarding an electrode pair within the inner stack.

40. Bean discloses a cuvette for bioassays that includes an electrode pair within the cuvette. For claim 63, Bean discloses that the electrode pair (electrodes 11 & 12) which are "oppositely arranged" and are in contact with the inner space of the cuvette (Fig. 1). The electrodes within the cuvette (10) generate a controlled electric field in order to

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avoid mass transfer, electrode bubbling and electrode polarization (col. 2 lines 50-54).

Modifying Schisselbauer based on the teachings of Bean would be obvious to one of ordinary skill in the art in order to generate an electric field within the inner chamber with a reasonable expectation of success.

41. Claims 64 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schisselbauer in view of Beichmann et al. (US 2002/0164776 A1).

42. Schisselbauer is silent regarding the material used for the electrodes.

43. Beichmann discloses a chamber for treating cell suspensions in an electric field where the electrodes are made of an electrically conductive material. For claims 64 and 65, Beichmann discloses that the materials are made from an electrically conductive plastic that have been metallized ([0025]). Since the combined teachings of Schisselbauer and Beichmann disclose the apparatus as claimed, the process for which it was made is the same as or obvious over the process utilized by Schisselbauer and Beichmann. It would be obvious to one of ordinary skill in the art to employ the plates as suggested by Beichmann in order to provide an electric field within the device of Schisselbauer. The suggestion for doing so at the time would have been in order to have plates for which the cells or fusion products can be readily rinsed off ([0021]).

Allowable Subject Matter

44. Claims 52, 55-57 and 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

45. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach or fairly suggest a second container that is connected to biological treatment device. Claims 55-57 and 60 are indicated as allowable subject matter due to their dependence on claim 52.

Response to Arguments

46. Applicant's arguments filed 04/24/2009 have been fully considered but they are not persuasive. Regarding Applicant's argument on page 9 that the term "tube-like" does not render the claim indefinite. The Examiner respectfully disagrees. As stated above, the term "tube-like" is a relative term that renders the claim indefinite since the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Therefore, the 35 USC 112 second paragraph rejection will stand.

47. Regarding Applicant's argument that the electrode stack of Schiesselbauer is not disposed "next to" or "close to the electrode as required by claim 38", the Examiner respectfully disagrees. The term "close to" can be given the broadest reasonable interpretation to imply that the electrode is "next to" or "adjacent to" the inlet or that the electrode is at some reasonable distance from the inlet while still allowing the generated

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electric field to promote permeabilization of the cell membranes within the carrier fluid. Since the specification does not provide guidance as to how close or far from the inlet the electrode is located, the electrode of Schiesselbauer has been interpreted as being "close to" the inlet and therefore anticipates this claim limitation. Also, regarding Applicant's that the burden for invoking inherency in the previous action with regards to the container being aseptically sealed, the container of Schiesselbauer is a closed container and therefore is fully capable of being aseptically sealed. Furthermore, the claim does not provide a structural limitation as to how the container is sealed and can therefore be interpreted as a product-by-process claim that does not structurally define the instant application over the prior art.

48. With regards to Applicant's discussion of the treatment of biological material within the device of Schiesselbauer is note, however, the specific type of biological treatment is not claimed nor does the claim language preclude the device of Schiesselbauer. Further, the material contained within the reservoirs and operated on by the apparatus constitutes material worked upon by an apparatus that does not structurally define the instant application over the prior art (see also MPEP 2115).

49. Regarding Applicant's argument for claims 39, 40 and 43 starting on page 12 that the Office failed to provide a rationale why the skilled artisan would connect the two chambers of Schiesselbauer with a tube. The Examiner respectfully disagrees. Rationale was provided in paragraph 17 of the previous action and there are only a finite number of ways to form a connection between two chambers that includes the tube of Branson, a rupturable membrane or a Luer lock. While not an exhaustive list,

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the skilled artisan would have been aware of the advantages of using a tube as a means to control the flow of sample fluid between the two chambers.

Regarding Applicant's argument on page 14 that the combination of Schisselbauer and Berson would be unsatisfactory for the intended use due to the pressurized reservoir of Schisselbauer, the Examiner respectfully disagrees. There is no indication that the pressurized chamber of Schisselbauer would be unsatisfactory if made from a flexible or expandable material. Further, the skilled artisan would be able to infer the use of a flexible wall in order to apply pressure and rupture the seal separating the two chambers of Schisselbauer. Finally, "A person of ordinary skill in the art is also a person of ordinary creativity, not an automaton." KSR, 550 U.S. at ___, 82 USPQ2d at 1397. "[I]n many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." Id. Office personnel may also take into account "the inferences and creative steps that a person of ordinary skill in the art would employ." Id. at ___, 82 USPQ2d at 1396.

50. Regarding Applicant's argument on page 16 through the top of page 17 that the pressurized chamber of Schisselberg would render the combination of Schisselberg and Barbera-Guillem unsatisfactory for its intended purpose, the Examiner respectfully disagrees. The use of septum to provide a re-sealable port to the interior of a container is known within the art and the skilled artisan would have been aware of the applications of a septum at the time of the instant application. Furthermore, while the reservoir of Schisselberg is pressurized at times, there is no indication that the pressure is such that

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the septum would be ruptured. Also, as stated, the material treated by the apparatus does not structurally define the instant application over the prior art.

51. Regarding Applicants argument on page 17 that there is "no explicit reasoning why the person of ordinary skill in the art would introduce an electric field into Schisselberg", the Examiner respectfully disagrees. Shisselbauer discloses an electrode plate that is fully capable of generating an electric field as discussed in claim 38 and in 63.

52. Regarding Applicant's argument on page 18 that Schisselbauer does not treat the material in the same way as the instant application, this argument was answered above and the type of material worked upon by the apparatus does not structurally define the application over the prior art.

Conclusion

53. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL HOBBS whose telephone number is (571)270-3724. The examiner can normally be reached on Monday-Thursday 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. H./
Examiner, Art Unit 1797

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797

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